



Keele
University

UNIVERSITY ENVIRONMENT AND SUSTAINABILITY STEERING GROUP

Wednesday 14th March 2018, 10 -12 Noon
in CM2.02 Claus Moser Building

AGENDA

1. Welcome and Apologies

2. Actions List – 23rd January

Actions list **attached**

3. Chair's Remarks

3.1 Ethical Investments (MO)

4. Key Projects

4.1 Annual EAUC Conference 2018 – Update (MO/ZR/SB/HE)

4.2 SEND and HyDeploy (MO/IM/PB)

4.3 2018 Sustainability Report (HE/ZR)

5. Estates and Operations

5.1 Environmental Manager's Update (HE/EJ)

5.1.1 Single use plastic/products (HE)

5.2 Annual Environmental Objectives and Targets (HE)

5.3 Energy and Carbon Update (**Attached**) (EJ)

6. Leadership and Governance

6.1 Sustainability Strategy and Target Setting (ZR)

7. Education and Research

7.1 Education for Sustainability Developments (ZR)

7.2 Institute for Sustainable Futures

8. Updates from the Students' Union

8.1 Keele Communities Together Group - Water Dispensers across campus(SG)

8.2 The Great Donate - Keele's end of year recycling scheme (SG)

8.3 Food Waste Pilot in Halls (SG)

8.4 Recycled paper (SG)

9. International Activities

9.1 Sustainability and Internationalisation (ZR)

10. Any Other Business

11. Date of Next Meeting

Tuesday 12th June, 2.00 – 4.00 pm

University Environment and Sustainability Steering Group (ESSG)

Actions List

23rd January 2018

1. Attendance and Apologies

Professor Mark Ormerod (MO)	Deputy Vice-Chancellor and Provost (Chair)
Phil Butters (PB)	Director of Estates and Development
Huw Evans (HE)	Environmental Manager, Estates and Development
Sam Gibbons (SGi)	Environment and Campus Officer, Keele SU
Sarah Briggs (SB)	Sustainability Project Officer
Elliot Jones (EJ)	Energy Manager, Estates and Development
Natalie Luzmore (NL)	Environment and Campus Officer, Keele SU
Dr Zoe Robinson (ZR)	Director of Education for Sustainability, School of Geology, Geography and Environment
Dr Ian Madley (IM)	Head of Partnership Development (Natural Sciences), Engagement and Partnerships
Dr John White (JW)	Deputy Director of IT
Melody Butters (MB)	Executive Support Manager, Vice-Chancellor's Office (Secretary)

1.1 Apologies

Susan Warrender, Linda Sutton and Peter Potts

Item	Decisions/Actions	Responsibility
3. Chair's Remarks		
3.1 SEND Update	<ul style="list-style-type: none"> • Formal press announcement last week. Fantastic reception so far. Siemens have submitted a draft engagement plan and IM working on bringing in other corporate partners. Culmination of PB's original vision and Group congratulated and thanked him. • SEND PhD studentships /Doctoral Training Centre – 13 companies have signed up so far (must have SMEs from Staffordshire area). • ZR has submitted article on SEND to environmental scientist magazine. To circulate to this group. 	ZR
3.2 HyDeploy	<ul style="list-style-type: none"> • Covered in the Sunday Telegraph. Launch event in Westminster in February. Now live on campus. Positive reception so far from residents on the whole. • Also invited to participate in joint hydrogen EPSRC bid and Energy Research Accelerator funded by Innovate UK £180m. Act: IM to put together slides for the Chair in time for the formal launch event in London at the end of February. 	IM
3.3 KUISF	<ul style="list-style-type: none"> • Four recent senior academic appointments related to environmental sustainability across the institution. Work to create the Institute will now go forward alongside Global Health and Social Inclusion. 	

Item	Decisions/Actions	Responsibility
4. Key Projects		
4.1 EAUC June 2018	<ul style="list-style-type: none"> Initial meeting held to look at facilities and accommodation on campus. Conference will be a key driver to improve messaging on sustainability in buildings and for conferencing and events. Need to think about how to maximise visibility of SEND during the conference. 	
5. Estate and Operations		
5.1 Environmental Manager's Update	<ul style="list-style-type: none"> Eco Campus annual audit due Feb 2018. SKA Rating - being piloted for refurbishment work, in particular Lennard Jones, as more practical to apply than BREEAM. Sustainability Network – initial launch of the initiative which replaces Green Impact awards to Schools and Directorates undertaken in Jan. HW to liaise with Chair to encourage Schools and Directorate participation in the network. WARP-it - over £5k of savings made through circulation of furniture across Uni. Discussed involvement of IT equipment in future. Hawthorns – BHF collected left over furniture and raised circa £15k which was a great success. BHF annual report – over £10k generated from student donation bags. 	Chair and HE
5.2 Annual Environmental Objectives and Targets	<ul style="list-style-type: none"> Group agreed it would be desirable to include curriculum into the objectives and targets. ZR to work with HE to include by audit deadline if possible 20 Feb and bring back to the next meeting on 14 March. Agreed need to have some more specific targets in order to challenge ourselves. Group to comment further on draft objectives and targets to HE. 	ZR and HE Group
5.3 Energy Consumption Update	<ul style="list-style-type: none"> Gas consumption – overall decrease in consumption Nov/Dec but figures confused by Hawthorns/new Barnes move at that time. Significant decrease in gas usage predicted now that Hawthorns decommissioned. Electricity – consumption down. A lot of LED lighting replacement and new street lighting. Water consumption – improvement on last year but also had several leaks due to changes in monitoring and reaction procedures. Still running ahead of forecast however. Significant investment in water network and new water piping will go in the central drive. Pipework replacement on observatory walk in the summer. Engaging with consultancies at the moment around underground water accessibility on campus. Low carbon energy production – solar pv capacity increased by installing on Barnes. 	

Item	Decisions/Actions	Responsibility
	<ul style="list-style-type: none"> • CHP - Group agreed it would be useful to communicate number of buildings who will benefit from being served by the CHP boiler as part of the central drive works. 	
5.4 Responsible Procurement Report	<ul style="list-style-type: none"> • Received and noted. 	
5.5 Fair Trade Policy	<ul style="list-style-type: none"> • The Group approved the updated Fair Trade Policy. 	
5.6 2018 Sustainability Report	<ul style="list-style-type: none"> • Looking to launch report in March during Green Week. Original deadline for contributions end of this week. Members asked to send contributions ASAP. 	All
6. <u>SU Update</u>	<ul style="list-style-type: none"> • Outside heaters have been removed from the SU. LED light replacements in bars and venues also being looked at. • Students have been involved in ground works and have signed up to Green Impact project. • Move Out scheme has been very successful and will be rebranded to the Great Donate next year, working together with Staffs Uni to promote more widely. Phasing out use of plastic straws as part of NUS Last Straw project. • Food recycling back of house in catering outlines and moving to front facing recycling facilities and removing of plastic cutlery to recyclable materials. • Reviewing farmers market to source new local suppliers. 	
7. <u>Education and Research</u>		
7.1 Education for Sustainability	<ul style="list-style-type: none"> • Range of wellbeing events run as part of Exams Plus events bat and bird walks and Be More initiatives. Module case studies good practice will be published and will undertake an audit of sustainability in programmes shortlisted. • Responsible Futures Accreditation – up for re-accreditation and will set up a small Keele/SU working group. • Green Week in March theme is on plastic. 	
8. <u>International Activities</u>		
8.1 Sustainability and Internationalisation	<ul style="list-style-type: none"> • Discussed opportunities to maximise sustainability theme in relation to international activities. 	
9. AOB		
9.1 Sustainability Strategy and Target Setting	<ul style="list-style-type: none"> • Discussed Chancellor’s comments about whether we need to develop a new sustainability strategy with more robust targets in view of the major projects we have underway and progress that has been made. • Could be a way to reinvigorate activities in this area, especially if the strategy is participatory. • ZR and Chair to have an initial discussion on strategy. 	Chair & ZR

Item	Decisions/Actions	Responsibility
9.2 Hydrogen Cars	<ul style="list-style-type: none"> • High Deploy partners have donated hydrogen cars to be demonstrated on campus during Green Week. 	
9.3 Ethical Investments	<ul style="list-style-type: none"> • Progress on ethical investments to be reported at the next meeting. 	Chair

Environment and Sustainability Steering Group (ESSG)

Energy & Carbon Management Update Report

March 2018

1. 2017/18 Energy & Water Performance to Date

Carbon

Carbon Footprint

No interim Carbon Footprint update available until August as consumption and recharge data is only consolidated once per year.

Carbon Reduction Commitment

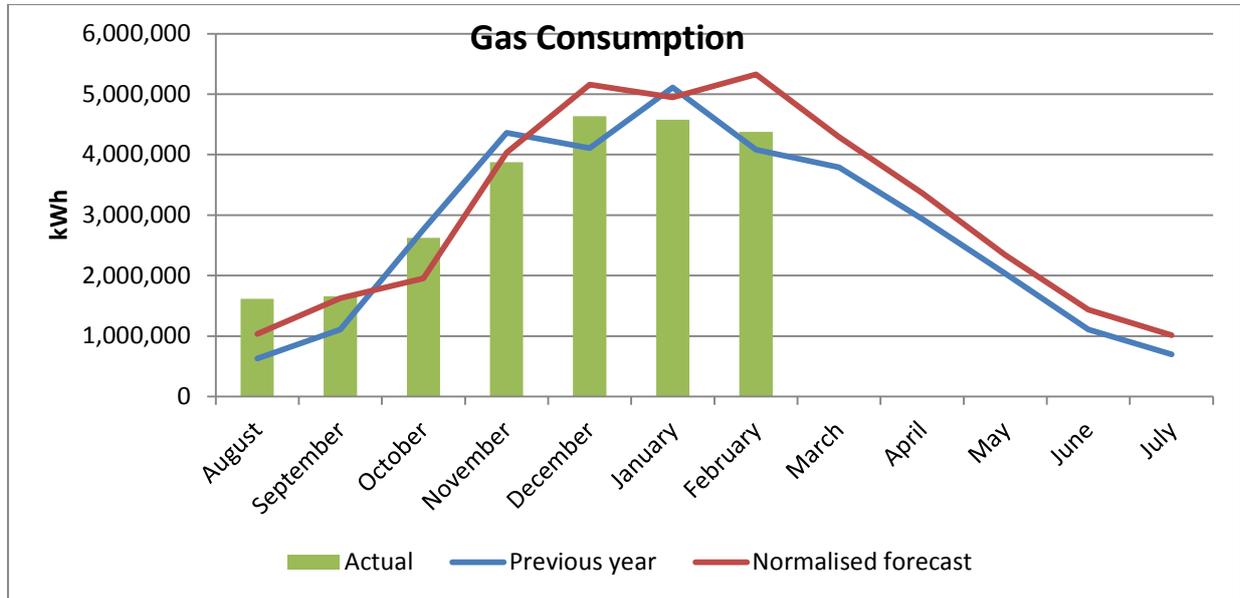
The Carbon Reduction Commitment (CRC) scheme requires the University to calculate the carbon emissions that result from gas and electricity use in buildings and by allowances for each tonne emitted.

As each year's reporting takes place in July, there is no update in this report.

The CRC is due to end following the 2018/19 reporting year and although a replacement scheme has been suggested by the National Government no details have yet been provided.

Energy

Gas



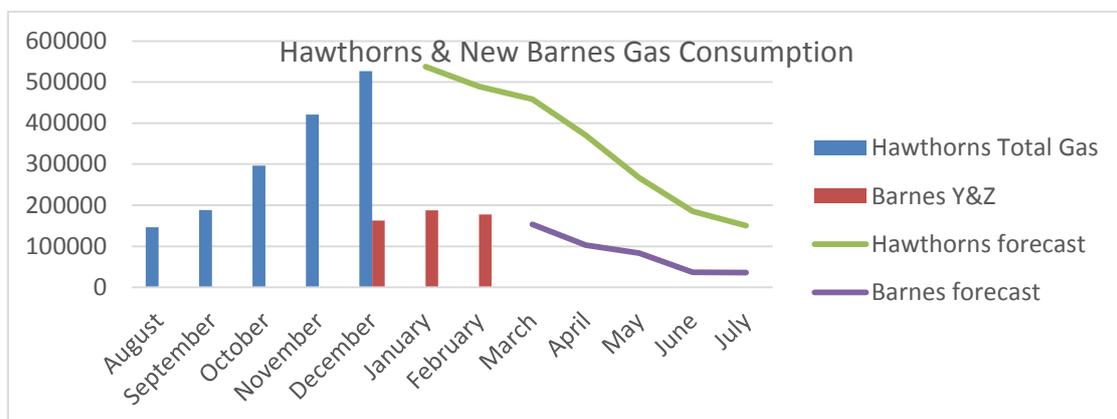
Gas consumption for the period Q2 (Nov-Jan) is consistently below the normalised forecast. This is down primarily to:

- Hawthorns decommissioning
- Modifications to Horwood Energy Centre to increase efficiency and greater utilisation of the CHP than expected
- Programmed/reactive maintenance

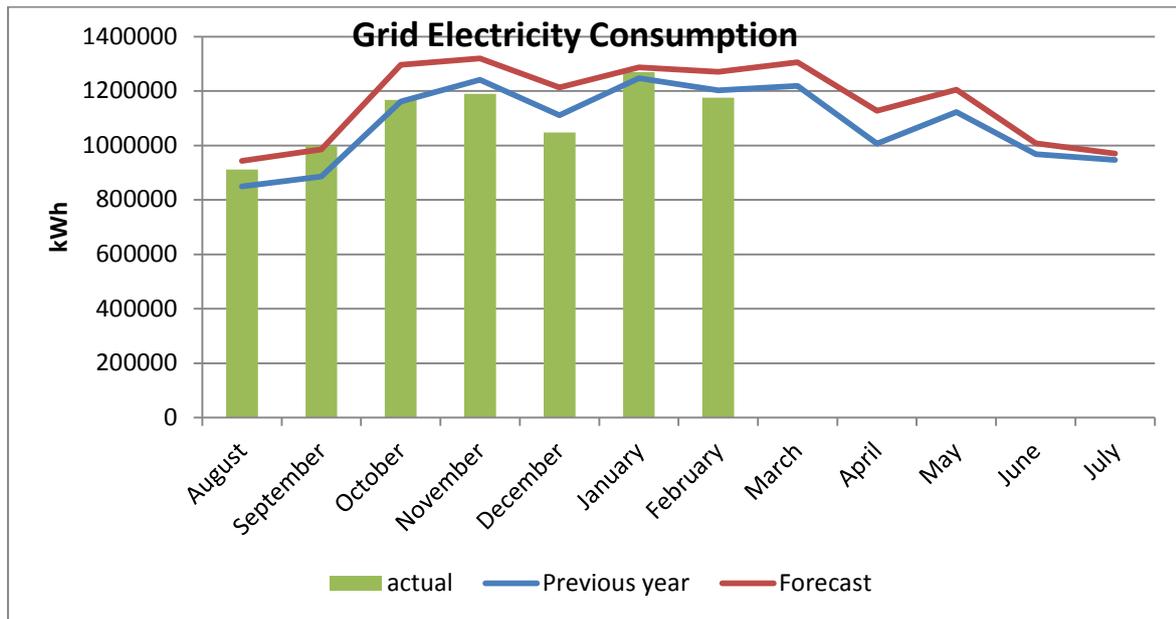
Year to date consumption of gas is now 2.4% below the forecast exclusive of weather correction. As the weather to date has been colder than average the actual consumption is around 3% lower than the weather corrected forecast.

Impact of Hawthorns decommissioning

Gas consumption for the entire campus was down by 370MWh in January. As shown in the graph below, the impact of the decommissioning of the Hawthorns campus has been considerable and is responsible for approximately 310MWh of this decrease.



Electricity



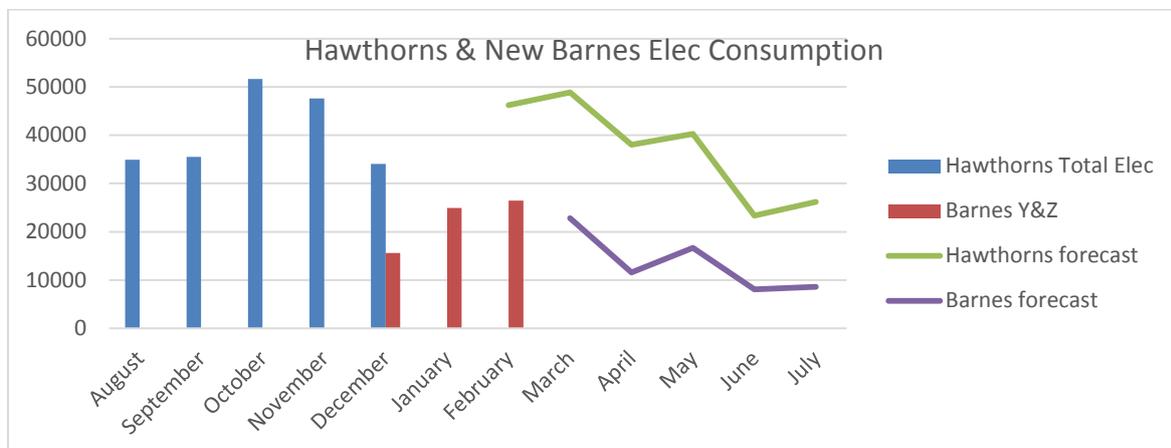
Grid electricity consumption for the academic year to date is down by 6.7% against the projection.

Electricity consumption for Q2 was down by 8.2% respectively against the forecast. This is as a result of:

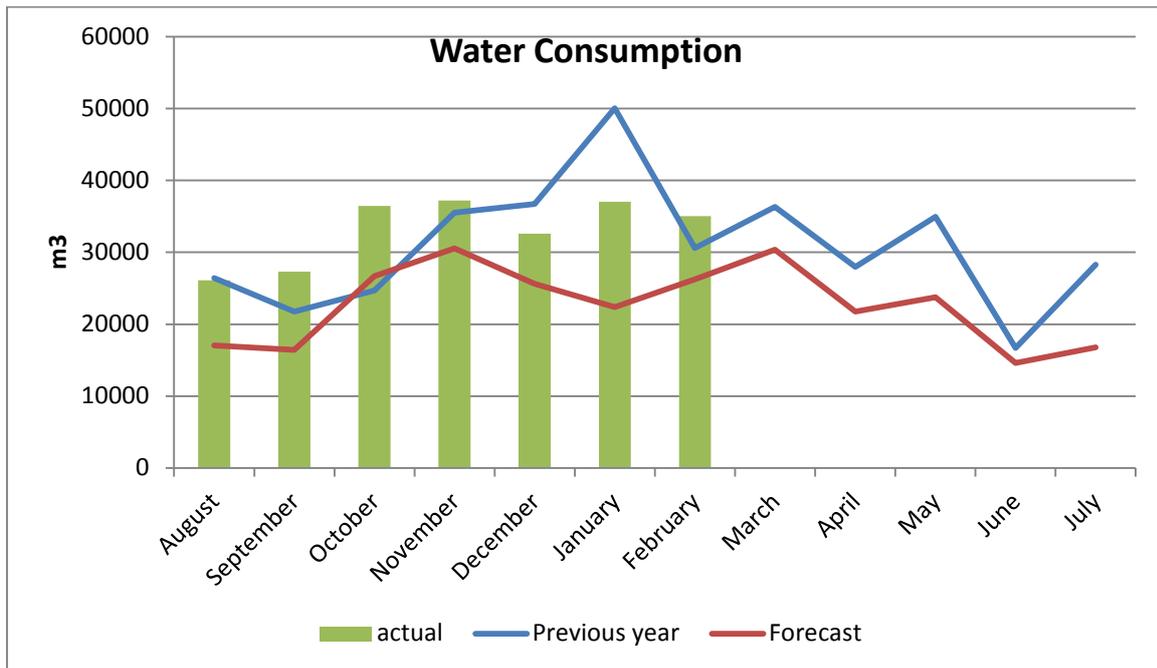
- Partial shut-down of Hawthorns ahead of decommissioning
- Christmas break fell slightly earlier in 2017
- Energy efficiency projects, particularly LED lighting replacements
- CHP output significantly above projection

Impact of Hawthorns decommissioning

Electricity consumption for the entire campus was down by 95MWh in February. As shown in the graph below, the impact of the decommissioning of the Hawthorns campus has been considerable and is responsible for approximately 46MWh of this decrease.



Water



Year to date water consumption is running 40% above the forecast with Q2 being above by 36%.

During the recent cold snap we experienced more than 10 significant leaks in a two week period. The processes put into place leading into the winter period allowed us to identify and rectify each of those quicker and as a result have managed to limit the impact on consumption.

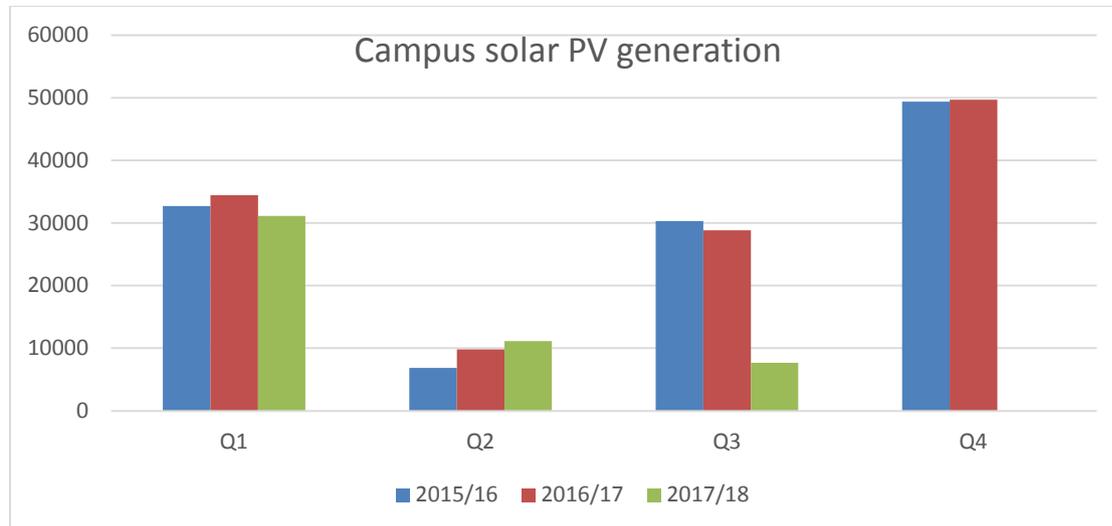
We are currently working on two areas of campus where we believe that there are major leaks including the primary water supply leading to the reservoir. A major shut down of the water network on the eastern side of campus is proposed during the Easter period to allow us to locate precisely and repair this.

There are three projects which will be completed this academic year which will see us reduce the quantity of 'at-risk' pipework on campus by more than 500m.

Low Carbon Generation

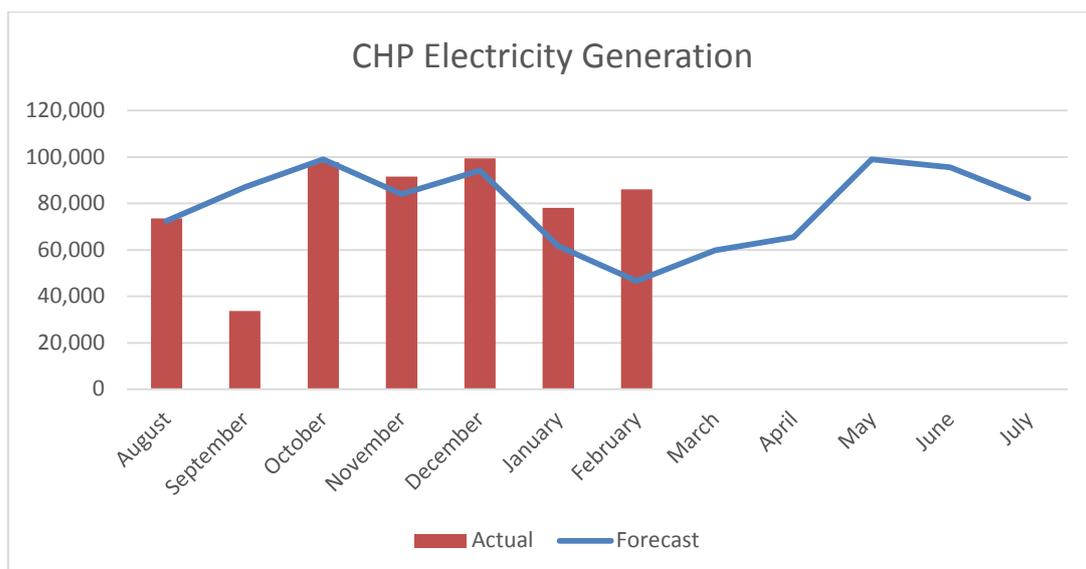
Solar PV

Total generation levels are up slightly in Q2 due to the new Barnes arrays being commissioned. The failure of one of the arrays on Holly Cross in Q4 2017 has now been repaired.



CHP

Despite the gas fired Combined Heat and Power unit at Horwood Energy Centre suffering a major malfunction in September and a minor issue in January, year to date generation is up 2.7% against the historical average. The extension to incorporate the Lennard-Jones heat network is on target to complete in August 2018 and will lead to increased utilisation of the unit, particularly in summer months.



2. Energy Management Strategy EnPI's

	2017/18	Q1 (Aug-Oct 2018)	Q2 (2017)	Q2 (Nov – Jan)	Q3 (Feb – April 2017)	Q4 (May – July 2017)
	Monitoring, Targeting & Control					
EnPI01	Number of core sub meters which are reporting data automatically (AMR)	164	142	166	152	164
EnPI02	Percentage of core non-AMR meters which have been read at least twice a year	98%	94%	98%	96%	99%
	Behaviour Change					
EnPI03	Number of students/staff directly engaged in behavioural change programmes	1100	734	1100	734	734
	Energy Efficiency					
EnPI04	Number of feasible projects identified	111	93	111	101	111
EnPI05	Percentage of projects achieving or surpassing the expected savings	100%	100%	100%	100%	100
EnPI06	Percentage of buildings formally audited within the last three years	50%	48%	50%	40%	52%
EnPI07	Percentage of Display Energy Certificates with Operational Ratings better than 100	94%	93%	94%	94%	94%
EnPI08	Total qualifying electricity consumption ¹	2,626,774	3,599,199	3,505,495	3,574,461	3,037,709
EnPI09	Total qualifying gas consumption	5,681,748	13,615,894	13,087,015	10,756,795	3,671,458
	Energy Generation from Low-Zero carbon sources					
EnPI10	Percentage of total generation delivered on-site	7%	4.4%	4.4%	5.3%	9.7%
EnPI11	kWh of electricity from CHP	204,905	273,546	269,004	268,391	245,665
EnPI12	kWh of heat from CHP	337,800	454,200	436,400	443,300	404,000
EnPI13	kWh of electricity from Solar PV	31,135	9,807	11,132	28,821	49,676
EnPI14	kWh of biomass	9,229	8,650	7,300	8,564	9,639
EnPI15	kWh of additional LZC sources employed on site	2,111	9,051	10,984	7,448	1,161

¹ Including domestic housing and recharged tenants

3. Energy/water Management Projects

No new projects have been completed since the last report in January.

Upcoming:

Reservoir main replacement (June/July 2018)

Central Drive water main and heat network project (In progress)

Crime Scene House Heating Replacement (Imminent)

Claus Moser room level heating control - Phase 2 (In progress)